

MORPHOGENETIC ANALYSIS AS A BASIS FOR INTERVENTION IN THE OLD URBAN AREAS OF PORTUGUESE CITIES

Mário Gonçalves Fernandes, Professor of Geography, CEGOT, University of Porto, Portugal

Rui Passos Mealha, Professor of Architecture and Urban Planning, University of Porto, Portugal

ABSTRACT

The authors have in the last few years coordinated and developed several block plans commissioned by municipal authorities, targeting older urban areas in Portuguese cities. This paper aims to put forward some of the results stemming from reflections on the process involved in developing concrete proposals, materialized in plans and urban projects.

Thus, these plans and their corresponding proposals for intervention in zones of five Portuguese cities – Coimbra, Viana do Castelo, Vila do Conde, Matosinhos e Porto – are compared, detailing the most relevant morphological aspects and highlighting the importance given to finding invariants and morphogenetic specificities. These will serve both as a methodology to characterize morphotypologically the targeted spaces and as a process to provide inspiration and support to the intervention, rooted in common principles and denominators and summarized in drawing.

Anchored in broadening morphogenetic knowledge and in considering issues related with identity, unity and diversity (includes identifying singularities, permanencies, modifications and ruptures), this study points the importance of historical contextualization of the areas of intervention as a process which clarifies and defines directions to conceptualize urban interventions, whether to safeguard and regenerate, consolidate or renew.

Finally, this study also points out how the urban project recognizes and represents the territories it wishes to modify and how to foresee such modification, reflecting on the need to conceive new analysis methodologies that allow the integration of “project materials” and urban planning programs into their various scales of relevance, given the current demands and unpredictable conditions of the contemporary exercise.

Keywords: Morphogenetic analysis, urban project, medium-sized Portuguese cities

THE IDEAS

The task of drawing up an urban plan that guides the occupation and intervention in urban spaces, be it at the most flexible scale of the urbanization plan, where zoning is defined, but also the alignments, setbacks, volumetries and respective functional and typological patterns, be it at the detail scale of the detail plan, which reaches the design of the implantations, or even at scales and contexts suitable for the design of structuring public spaces, the task, we said, takes place in a process that uses more or less recognized methodologies and builds legally conditioned technical content, by relatively similar procedures.

However, what matters to us here is the content of the proposal, the idea or driving ideas that underlie it, which, being able to be generated by multiple concepts and orientations, can also be, by the morphological approach, particularly fruitful when faced, simultaneously, as material for analysis and design, and as a design tool, that is, as a circumstance of departure and arrival.

Approaching the urban plan, of any scale and legal content, as an urban project, the definition of urban and environmental structuring can (should, in our opinion) be based on the study of urban morphology, its different scales of approach, as the main support for the conceptual options that will support the proposals (of programming and action in the city and space of urbanization).

The morphological approach implies an extensive collection of information on the area of intervention, which includes both direct observations, those that are supposedly objective and those that are supposedly experienced, as well as those allowed by photography (aerial and proximity), thematic cartography (framing, the typologies of spaces, the ecological structure and the morphology of the physical support, the road structure and the system of public spaces, the functional systems and land structure, the state of conservation and the construction systems of the buildings, the morphotypologies of the buildings, the singular values and dissonant factors,...), by multidimensional modeling of the existing situation and proposed programs, etc.

The analysis always takes place in a multi-scale perspective, developing a GIS / CAD, so that its products allow the recognition of urban morpho-typologies, expressed either cartographically or through sections/elevations, which make it possible to explain the morphological elements and understand its structure, organization and spatial, structural and socio-productive significance.

The reading of all observations, records and prospective representations, developed in different features, should be consolidated in the systematic search for the terms of identity of the observed contexts, which involves, in a more or less explicit way, the study of morphogenesis, valid and useful for understanding any and all circumstances of urban intervention, regardless of the temporal thickness, and essential in the case of the oldest and most consolidated urban fabrics, for the study of which there are historical documentary sources, both texts and cartography, as well as thematic bibliography and academic and local studies, as are the cases of urban spaces discussed here.

As stated on another occasion, "it is not a question of repeating generic classifications, more or less universal, with wide support in studies on urban morphology (...), but rather, based on this knowledge, clarifying typologies that arise from concrete cases of the Portuguese city, which implies identifying and characterizing the sets and singularities, permanences and modifications, ruptures and continuities" (FERNANDES, M., 2011), whose understanding requires knowledge of the genesis of each specific intervention area, of each place.

The proposal always seeks to structure systems, identify "soil projects" (SECCHI, B., 1989) and deal with the articulation and qualification of public space. In addition, the proposals are also morphological, recognizing factors of image diversity and looking for elements of unity and coherence. However, methodologically, the first option is the conservation of significant values, whether heritage and classified, or other elements or groups that can be enhanced, whether for architectural reasons or simply visual, image, composition, and landscape framing. In fact, many of the main "materials" of urban design are present in the intervention contexts, as facts and artefacts to be highlighted as significant values that enhance the recognition, qualification and contextualization of the proposed solutions.

It is the presentation of these processes, with the exemplification of options, that we will develop in relation to some medium-sized Portuguese cities in the context of proposals for safeguarding, rehabilitation, consolidation or urban renewal, namely: Coimbra (consolidation, rehabilitation and renovation); Viana do Castelo (safeguard, consolidation and renovation); Vila do Conde

(rehabilitation and renovation); Matosinhos (consolidation, rehabilitation and renovation); Porto (consolidation and rehabilitation).

Underlining that the idea of a morphogenetics of urban space is not considered, since, in a literal sense, there is no DNA of the urban space, the paths that generate morphologies are sought and it is important to know to recognize, in the present, the identity(s) on which the fundamental inspirational conceptualization of each proposal will be based.

THE CASES

All references should be seen as examples only and not as exclusive aspects of the approach and proposal. Generically, recognizing that there are intrinsic and circumstantial differences from case to case, it is always intended, among other sources and possibilities, to develop proposals that arise from:

- Reading of traces, patterns, identity matrices that characterize the pre-existing urban mesh and fabrics and their morphogenesis, understanding the unity and / or volumetric and formal diversity as a factor of aggregate identity (street profiles, alleys and other collective spaces, morphology of the parcel, etc.);
- Eminently morphological approach: factors such as the morphologies and scales of plots, streets and buildings lead to opting for an “in-depth” performance in the urban fabrics, looking for grouped and singular forms that are contextualized and with identity.

The following are some notes on the referenced intervention instruments in the territory, namely:

- 2001 - Plano de Pormenor do Centro Histórico de Viana do Castelo;
- 2004 - Plano de Pormenor da Zona Ribeirinha Nascente em Vila do Conde;
- 2007 - Documento Estratégico e Estudo Prévio de Intervenção Urbanística Para a Primeira Unidade de Intervenção na Cidade de Coimbra;
- 2011 - Plano de Urbanização para a Envolvente à Rua de Recarei em Leça do Balio;
- 2016/17 - Estudo Prévio para a Requalificação da Avenida da Boavista, no troço compreendido entre a Rua de João Grave/Rua do Primeiro de Janeiro e a Avenida do Parque.

VIANA DO CASTELO 2001 (SAFEGUARD, CONSOLIDATION AND RENOVATION)

- Multiscale morphological approach between plan and projects in articulation of 4 ecosystems: city / hill / river / sea;
- In-depth analysis of the urban fabric with the explanation, for all buildings, of the possibility of intervention in a gradation of 4 classes (restoration, rehabilitation, reconstruction, construction);
- Resolution of impasses using proposals anchored in previous urban planning instruments (examples: connection of Avenida Conde da Carreira with Campo da Feira; extension to the east of Rua Pedro Homem de Melo and the opening of Rua Arqº José Fernandes Martins);
- Eliminate visual intrusions and volumetric discrepancies, to replace, in its heterogeneity, the balance of the morphology of the historic center, in order to create conditions for its classification as world Heritage (Edifício Jardim / Prédio Coutinho, considered as the main

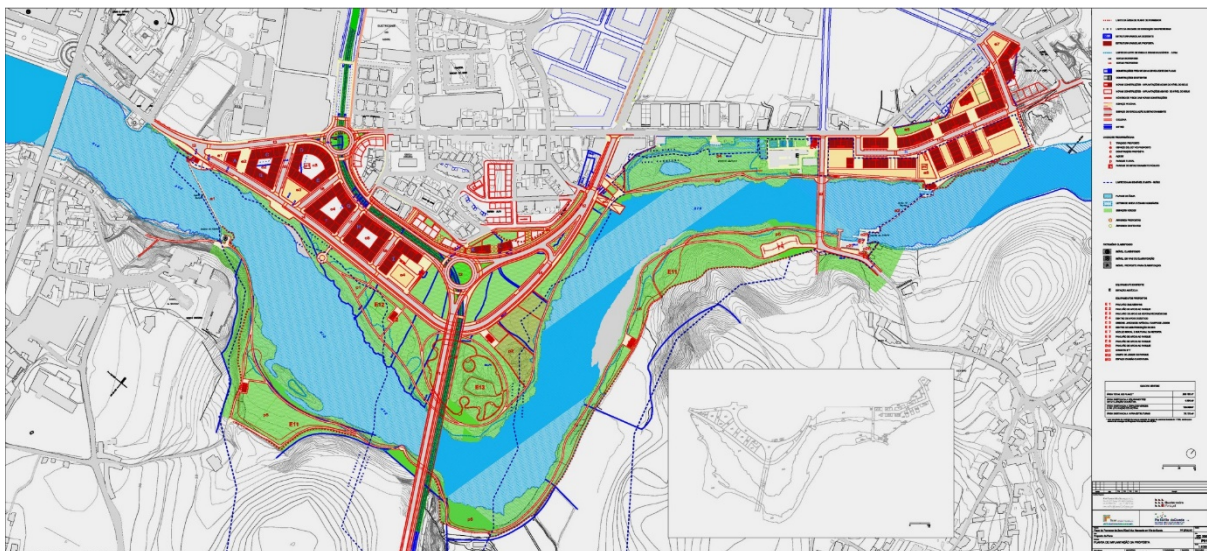
element of degradation of the image of the historic center, due to its volumetry and location, its demolition being fundamental).



Detailed Plan of the Historic Center of Viana do Castelo (2001)

VILA DO CONDE 2004 (REHABILITATION AND RENOVATION)

- New road entrance to the city and insertion of the light rail, maintaining the railway crossing bridge and adding a new road and pedestrian crossing bridge;
- Use of a channel preserved by a previous urban planning instrument for the design and insertion of an articulation route in the urban network, forming an alternative to the old level crossing and articulating the urban network with the equipment area to the east;
- Use of river banks to create an urban park, with educational gardens, jogging circuit, fish observation equipment, access to river vessels, etc.;
- Construction of new buildings on the right bank of the river whose morphology arises from the reading, from downstream to upstream, of the urban form sequence.



Detail Plan of the East Riverside Zone in Vila do Conde (2004)

COIMBRA 2007 (CONSOLIDATION, REHABILITATION AND RENOVATION)

- Urban insertion of the metro platform respecting the morphology of an urban quarter;
- Rua da Sofia - tunnel / door - maintaining the continuity of the urban front, avoiding evidence of the rupture resulting from the insertion of the metro infrastructure;
- Rua Direita - marking of alignments, volume and suppressed rhythms (horizontal and vertical reading - threedimensional structure);
- Transverse articulations - alleys and passages to reinforce the levels of spatial connection;
- West front next to Braga Parques (parking lot) - closing of traditional block for finishing the new collective spaces;
- New collective spaces and new urban fronts with traditional forms and images;
- "Bota-a-baixo" ("put it down") area - block closing program, design of collective interior space and recomposition of morphological rupture.



Strategic Document and Preliminary Study of Urban Intervention for the First Intervention Unit in the City of Coimbra (2007)

RECAREI 2011 – LEÇA DO BALIO, MATOSINHOS (CONSOLIDATION, REHABILITATION AND RENOVATION)

- Articulation of the urban fabric generated from an old 19th century road with the integration of housing developments;
- Reprofilng of the 19th-century road-street, with a solution based on the preservation of buildings with significant value, transition of volumetries and finishing of blind plans, definition of double urban porticoes (loggias) and with a qualified profile of vigorous group image with strong identity;
- Improvement of the centrality generated over the centuries at the intersection of old roads (Padrão da Légua);
- Constitution of new public spaces, including a small park area on the north side with the the water line put out of the tube and a new triangular square in Padrão da Légua (south limit);

- Resolution of deadlocks determined by surrounding barriers, such as highway and rail channel ("project of the limit").



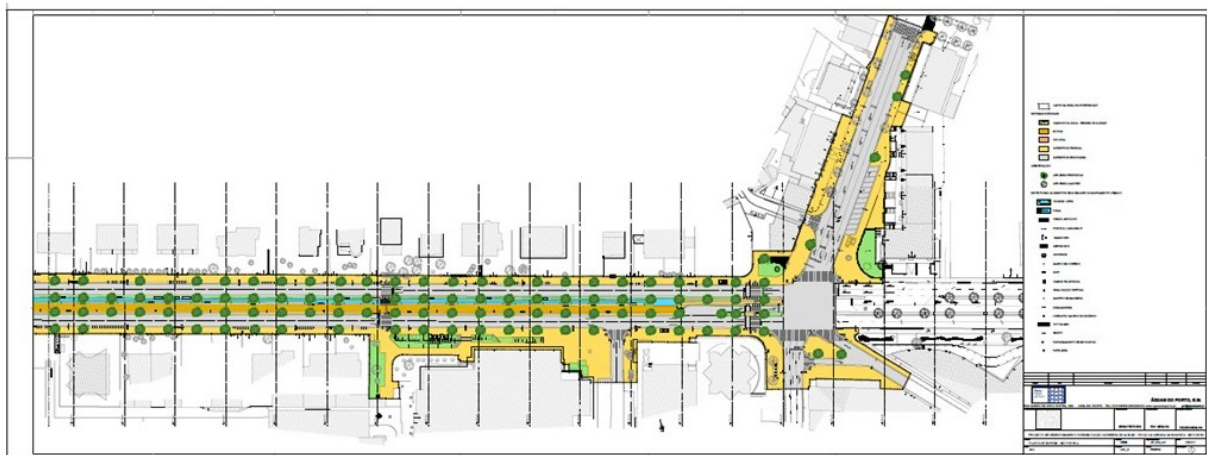
Urbanization Plan for the Surroundings of Rua de Recarei in Leça do Balio (2011)

PORTO 2016/17 (CONSOLIDATION AND REHABILITATION)

- Reading of the Boavista axis at local, urban and regional scales;
- Regularization of transversal profile, looking for coherence and continuity in an effort to unify profiles of multiple calibers;
- Reprofiting of the road axis, with the insertion of the waterline on the surface, and urban design based on stereotomy marked by the relationships established by the geometry of the subdivision structure, mainly in the cadence of urban equipment (public lighting and furniture) and afforestation (planting of oak trees);
- Dewatering and rehabilitation of the water line, which has now become a matrix element of public space in sector B2;
- Rehabilitation and urban insertion of the water line (Ribeira de Aldoar) outside the pipe, now a matrix for the public space in sector B2;
- Conformation and reinforcement of the Urban Ecological Structure, contributing to the cohesion of the environmental system.



Sector B1 of Preliminary Study for the Requalification of Avenida da Boavista, in the section between Rua de João Grave / Rua do Primeiro de Janeiro and Avenida do Parque (2016/17)



Sector B2 of Preliminary Study for the Requalification of Avenida da Boavista, in the section between Rua de João Grave / Rua do Primeiro de Janeiro and Avenida do Parque (2016/17)

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CORRESPONDING AUTHOR

Mário Gonçalves Fernandes, Professor of Geography and Researcher of the CEGOT, University of Porto, Faculdade de Letras da Universidade do Porto, Via Panorâmica, s/n, 4150-564 Porto, Portugal, mgfern@letras.up.pt